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METHOD, APPARATUS, PROCESSOR-READABLE MEDIA AND SIGNALS FOR ACQUIRING AND PRESENTING ACQUIRED MULTIMEDIA CONTENT

FIELD OF THE INVENTION

5   This invention relates to methods, apparatus, processor-readable media and signals for producing multimedia presentations and more particularly to acquiring and presenting acquired multimedia content.

BACKGROUND OF THE INVENTION

10   With the advent of the internet, computer users have been given access to a vast quantity of information. Much of this information is provided to users as multimedia content such as sound, graphics, text, etc, in the form of Hypertext Markup Language (HTML) files, graphics files such as JPEG and/or GIF files, or PDF files, for example.   These types of files are typically received at a user's computer through a browser running at the computer.

15   A browser, such as provided by Netscape facilitates access to content on the world wide web and even provides a history of websites visited, at which content may be found. The history usually lists URLs of websites visited, but is not necessarily a list of websites of interest to a user, since a user must typically surf through a plurality of websites to reach one of interest.

20   Bookmarks provide a way in which a user can identify URLs of websites of interest, however, no content is stored in association with bookmarks, other than that stored in cache. Furthermore, bookmarks are cumulative in that they generally do not specify websites of interest during an internet session, but rather specify websites of interest from all sessions conducted by a user.
25   Also, bookmarks specify web resources at which content may be found and require that the user be on-line in order to access the content specified by the bookmark.

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Cache memory is used by browsers to store content of all websites visited over a period of time, to facilitate fast re-access of website content, when surfing forward and back through a plurality of websites. Thus, a plurality of desired and undesired multimedia content may be stored in cache memory,

5   with no indications as to which is desired and which is undesired. Cache memory is usually loaded with content which is rarely, if ever accessed again by a user. Consequently, content stored in cache memory is typically discarded after some preset period of time to prevent the amount of memory devoted to caching from growing excessively. Thus content to be stored in

10   cache memory is generally not selectable as being desirable or undesirable by a user and is variable in time. Content can, however, be saved manually as source or text, however, this creates individual, non-linked files with no specified order of retrieval, which makes it difficult to recall files for use in a presentation.

15   Thus, neither history, bookmarks, cache memory, nor manual saving used by a browser facilitate easy storage of content specifically selected by a user as being desirable for later retrieval as a presentation. What would be desirable is a simple way for a user to identify and store multimedia content such as may be obtained from the world wide web, for later retrieval in which only the

20   content identified as being desirable by the user is presented, and is presented in an order specified by the user. If such retrieval could occur offline, it could be used in a presentation, for example.

SUMMARY OF THE INVENTION

The present invention addresses the above need by providing a method and

25   apparatus and processor-readable medium and signals for building a presentation by receiving user input identifying multimedia content to be included in the presentation and copying multimedia content identified by user-input, from a multimedia source to memory, for access by a presentation application. This facilitates the creation of a permanent presentation folder or

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presentation file of multimedia content and an index of acquired content, while surfing the world wide web.

In one embodiment the method and apparatus, medium and signals facilitate copying multimedia content from an application while such application is using the multimedia content. The method and apparatus may facilitate using a multimedia content application such as a browser to access multimedia content and to make such multimedia content selectable by a user for copying to a presentation file while concurrently running the multimedia content application.

In one embodiment the method and apparatus, medium and signals involve associating an identifier such as a uniform resource locator with stored multimedia content, for access by the presentation application. Such uniform resource locator may be identified by an application such as a browser through which the multimedia content is received.

In one embodiment the method and apparatus, medium and signals facilitate associating user-definable notes with desired multimedia content, for use by the presentation application.

To organize captured multimedia content, the method and apparatus, codes and signals may involve producing a multimedia content record accessible by the presentation application, the multimedia content record including a link to the multimedia content in memory.

In accordance with another aspect of the invention, there is provided a method, apparatus, processor-readable medium and signals for providing a presentation by identifying multimedia content previously identified by a user as to be included in the presentation and by accessing and presenting at least some multimedia content previously identified by the user.

Other aspects and features of the present invention will become apparent to those ordinarily skilled in the art upon review of the following description of

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specific embodiments of the invention in conjunction with the accompanying figures.

BRIEF DESCRIPTION OF THE DRAWINGS

In drawings which illustrate embodiments of the invention,

5   Figure 1   is a block diagram of an apparatus for acquiring multimedia content according to a first embodiment of the invention;

Figure 2   is a schematic representation of an applet according to a first embodiment of the invention;

Figure 3   is a schematic diagram of a folder structure produced by codes, in
10   accordance with the first embodiment of the invention;

Figure 4   is a flow chart representing blocks of code for carrying out a method of acquiring multimedia content according to the first embodiment of the invention;

Figure 5   is a schematic representation of a browser window in which a
15   concurrent window produced by codes according to the first embodiment of the invention is produced;

Figure 6   is a schematic representation of a presentation window according to the first embodiment of the invention;

Figure 7   is a flow chart of a copy function executed by codes according to
20   the first embodiment of the invention;

Figure 8   is a schematic representation of a content record shown in Figure 2; and

Figure 9   is a flowchart of a presentation application, according to a second aspect of the invention.

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DETAILED DESCRIPTION

As shown in Figure **1**, an apparatus for acquiring multimedia content according to a first embodiment of the invention is shown generally at **10**. The apparatus includes a computer **12** having a processor **14** in
5   communication with a network **16**, such as the world wide web **18**. The computer includes memory media such as a hard disk drive **20**, which is accessible by the processor **14** and which may be programmed with browser program codes operable to direct the processor **14** to run a browser for browsing resources identified by uniform resource locators (URLs) on the
10   world wide web. The processor **14** is further programmed with codes according to one embodiment of the invention, which direct the processor **14** to receive user input identifying multimedia content to be included in a presentation and to copy multimedia content identified by such user-input, from a source to memory, for access by a presentation application. The
15   multimedia content identified and copied to memory preferably includes content viewed in a window of the browser. Thus, the user can use the browser to surf the world wide web to locations of interest and when such a location is addressed, the user can specify that it is desired to copy the multimedia content of the currently addressed location or content associated
20   with the currently addressed location to a presentation storage area in memory, for later retrieval by a presentation application.

The specific way in which this is achieved may be accomplished by providing computer readable instructions to the processor **14** through any of various media such as a floppy disk **22**, a CD-ROM **24**, a tape drive **26**, a
25   communications interface **28** or any other method by which computer readable codes may be made to direct the processor **14** to execute instructions. Preferably, such instructions are provided to the processor in the form of a web-based applet shown generally at **11** in Figure **2**, that users can access and download from a website, through conventional hard-wired
30   communications services or through wireless communications services, where the applet may be encoded in signal segments of a signal embodied in

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a carrier-wave, for example.   The applet may be an Active-x™ or Javabeans™ plugin to a web browser, for example, and may be used with any web browser at any web location.

Referring to Figure 1, the applet 11 may be received from the world wide web

5   18, through the communications interface 28, and stored by the processor 14 in the hard disk drive 20. The user may be given the option to load the applet, in which case the applet 11 registers itself with the browser, in a conventional manner and as shown in Figure 3, sets up a presentations folder 21, having presentation subfolders 23, 25, etc., each of which may be used to store

10   multimedia content and a respective presentation file 27 and 29 in which a plurality multimedia content records 31 may be stored.

Referring to Figure 2, the applet 11 preferably includes a first block of codes 13 for providing processor-readable presentation builder instructions for directing the processor to receive user input identifying multimedia content to

15   be included in a presentation and to copy multimedia content identified by such user input from a source to memory for access by a presentation application. The applet 11 preferably further includes a second block of codes 15 for providing processor-readable presentation application instructions for directing the processor to provide a presentation by identifying multimedia

20   content previously identified by a user as to be included in a presentation and by accessing and presenting at least some of the multimedia content previously identified by a user.

Referring to Figure 4, the core functionality of the presentation builder instructions 13 may include a first block of codes 30 which directs the

25   processor to detect user activation of the presentation builder instructions 13. To effect such activation, these instructions may be accessed through an icon, for example, placed on a toolbar of the browser, or desktop, for example.

Still referring to Figure 4, the presentation builder instructions 13 may further include a block of codes 32 which directs the processor to create and

30   minimize a concurrent window, which produces a tab 41 on a tab bar of the

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user's graphical user interface, as shown in Figure **5**, and which establishes communications with the user's browser to receive a URL currently addressed by the browser.

Referring back to Figure **4**, the presentation builder instructions **13** include a further block of codes **36** which directs the processor to detect user selection of the presentation window. This may be done by the user operating a user input device such as a mouse, to the tab **41** and activating the presentation window to produce a display as shown generally at **33** in Figure **6**. Referring to Figures **4** and **6**, upon selection of the presentation window **33**, block **38** directs the processor to display in a preview window **34** the page currently addressed by the browser, while simultaneously displaying a page identification such as a URL of the page, as indicated at **35**, and while simultaneously displaying a text box **37** for receiving user-inputted text, such as user-definable notes, and associating same with the multimedia content shown in the preview window. A plurality of preview windows may be displayed to show previously acquired content, for example.

Referring back to Figure **4**, the presentation builder instructions **13** further include a user selection portion shown generally at **40** which determines whether a user has selected particular multimedia content to be included in the presentation. In this embodiment, this portion includes a block **44** which detects user activation of a save button **39** on the presentation window to cause the page currently addressed by the browser to be added to the presentation file.

After activation of the save button **39**, block **48** directs the processor to copy the currently selected multimedia content into the presentation subfolder **23** in memory, such as the hard disk drive **20** shown in Figure **1**, while the browser is displaying or using the same multimedia content.

Referring to Figures **3** and **7**, to effect such copying, the presentation builder instructions **13** include a first block of codes **47** which causes the processor to create a content record **31** in the presentation file **27**, the content record **31**

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having a format as shown in Figure 8. This format includes an ID field **56**, a memory index field **58**, and a notes field **59**. Referring back to Figure 7, block **52** then directs the processor to copy the multimedia content addressed by the browser into the presentation subfolder and to store a memory index to

5   the content, in the memory index field **58** of the content record **31**. Block **53** then directs the processor to load the ID field **56** with the URL from which the multimedia content was just copied (as identified by the browser) and to load the notes field **59** with the contents of the text box **37**.

It will be appreciated that any given HTML page may include a plurality of

10   multimedia content and in this regard such content may include images, for example. Consequently, referring back to Figure 7, the applet includes a block **60** which directs the processor to parse the HTML page for <img> tags and to load the content from URLs associated with such <img> tags into the presentation folder.

15   Alternatively, or in addition, the HTML page source may be parsed for <aiff> and/or <wav> tags to load content from URLs associated with these or other sound content tags.

In general, on locating a multimedia tag, the processor retrieves the associated multimedia source code, which may be text, a graphics image or

20   sound file, for example, from the URL specified by the multimedia tag and stores the multimedia content identified thereby in the same folder as the HTML page from which it was addressed, in the presentation file **27**.

Or if the current viewed content is in the form of a .pdf file, such .pdf file may be stored as a separate content file in the presentation subfolder **23**, with a

25   corresponding content record **31** in the presentation file **27**.

Alternatively, multimedia source content of the type described above may be appended as a content segment to a single content file and identifications of specific content segments and corresponding indices thereto may be stored in the ID field **56** and the memory index field **58** respectively of a content record

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54. The single presentation file may be produced in a format compatible with the POWERPOINT™ program available from Microsoft Corporation of Washington, USA, for example. Or, the single presentation file may be stored in an Adobe ACROBAT™ (.pdf) file format, for example.

5   In the above manner, a user can create a permanent presentation folder or presentation file of multimedia content and an index of acquired content, while surfing the world wide web. In other words, the user can use the browser to surf the world wide web to locations of interest and when such a location is addressed, the user can specify that it is desired to copy the multimedia

10   content of the currently addressed location or content associated with the currently addressed location to a presentation storage area in memory, for later retrieval by a presentation application.

Referring back to Figure 2, the presentation application instructions **15** may provide blocks of codes which direct the processor to identify multimedia

15   content previously identified by a user as to be included in a presentation and to access and present at least some of the multimedia content previously identified by the user. The previously identified multimedia content is that which has been stored in the presentation folder.

In particular, referring to Figure **9**, the presentation application instructions **15**

20   may include a block of instructions which direct the processor to read a selected presentation file **27** and address a first content record of the selected presentation file **27**.

Block **72** then directs the processor to display the multimedia content addressed by the memory index field **58** of the content record **54**. If the

25   multimedia content is in a browser-compatible format, the browser is invoked to view the content. Or if the multimedia content is in a .pdf format, an Adobe ACROBAT Reader™ is invoked to view the content. Or if the multimedia content is stored in a format compatible with Microsoft POWERPOINT™, that program is invoked to view the content.

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Referring back to Figure **8**, effectively block **74** directs the processor to provide to a viewing application, which may include a browser, a POWERPOINT™ program or a .pdf file reader multimedia content identified by the contents of the memory index field **58** associated with the currently addressed record. In general, the viewing application displays the multimedia content or otherwise presents multimedia content addressed by the contents of the memory index field **58** to the user. Block **76** then directs the processor to determine whether the last record in the presentation file has been addressed, and if it has, block **78** directs the processor to prompt the user for input on what to do next. Otherwise, if the last record has not been addressed, block **80** directs the processor to address the next content record of the selected presentation file and to resume processing at block **74**.

The act of addressing the next content record of the selected presentation file may be performed automatically, such as after a predetermined time, or on command of a user, in response to user input, for example. Using the automatic addressing method, a timer may be employed to display or otherwise provide to the user the multimedia content addressed by the contents of the memory index field **58** for a period of time, before presenting the multimedia content identified by the contents of the memory index field **58** of the next addressed content record. Thus, an automated presentation can be produced. Furthermore, since the contents of the memory index field **58** may always refer to a resource at the user's computer, there is no need to be in communication with the world wide web to view a presentation.

Alternatively, it will be appreciated that the contents of the memory index field may be used to address separate locations within a single multimedia content file to which multimedia content segments have been appended as described above. This may be the case, for example, where the viewing application is the POWERPOINT™ program provided by Microsoft. In this case, each multimedia content segment identified by a respective memory index field **58** may corresponding to a separate "slide" within a POWERPOINT™ presentation.

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While specific embodiments of the invention have been described and illustrated, such embodiments should be considered illustrative of the invention only and not as limiting the invention as construed in accordance with the accompanying claims.